NEC

NPN SILICON TRANSISTOR 2SC2785

DESCRIPTION

The 2SC2785 is designed for use in driver stage of AF amplifier and

low speed switching.

FEATURES

High Voltage

VCEO: 50 V MIN.

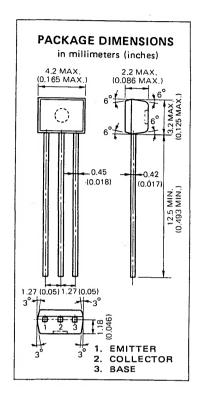
Excellent h_{FE} Linearity

: 0.92 TYP.

 h_{FE1} (0.1 mA)/ h_{FE2} (1.0 mA)

• Complementary to the NEC 2SA1175 PNP Transistor.

ABSOLUTE MAXIMUM RATINGS



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS	
h _{FE1}	DC Current Gain	50	185			V _{CE} =6.0 V, I _C =0.1 mA	
hFE2	DC Current Gain	110	200	600		V _{CE} =6.0 V, I _C =1.0 mA	
NF	Noise Figure		8.0	15	dB	V_{CE} =6.0 V, I_{C} =0.1 mA, R_{G} =2.0 k Ω ,	
						f=1.0 kHz	
fΤ	Gain Bandwidth Product	150	250	450	MHz	V _{CE} =6.0 V, I _E =-10 mA	
Cob	Collector to Base Capacitance		3.0	4.0	pF	V _{CB} =6.0 V, I _E =0, f=1.0 MHz	
ICBO	Collector Cutoff Current			100	nA	V _{CB} =60 V, I _E =0	
IEBO	Emitter Cutoff Current			100	nΑ	V _{EB} =5.0 V, I _C =0	
V_{BE}	Base to Emitter Voltage	0.55	0.62	0.65	V	V _{CE} =6.0 V, I _C =1.0 mA	
V _{CE(sat)}	Collector Saturation Voltage		0.15	0.3	V	IC=100 mA, IB=10 mA	
V _{BE(sat)}	Base Saturation Voltage		0.86	1.0	V	IC=100 mA, IB=10 mA	

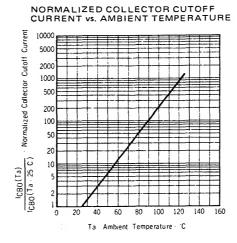
Classification of h_{FE2}

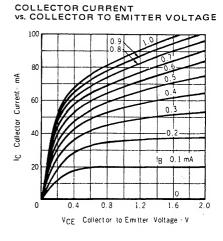
Rank	RF JF		HF	FF	EF	KF ,
Range	110 – 180	135 — 220	170 — 270	200 – 320	250 – 400	300 – 600

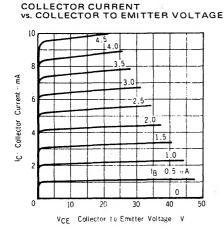
hFE2 Test Conditions : VCE=6.0 V, IC=1.0 mA

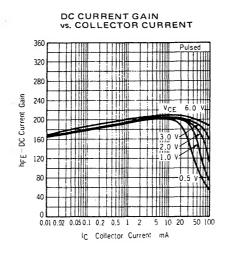
TYPICAL CHARACTERISTICS (Ta = 25 °C unless otherwise noted)

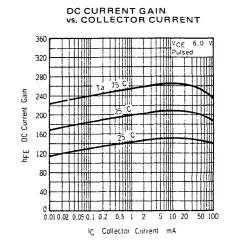
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE 300 25 ΜW Dissipation 200 150 Power Total 100 50 0 25 50 75 100 125 Ta Ambient Temperature -- 'C

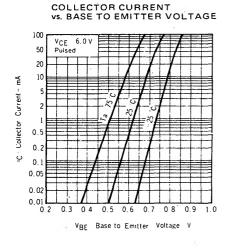


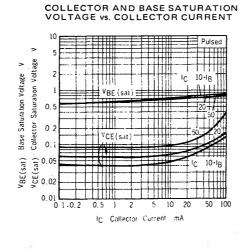


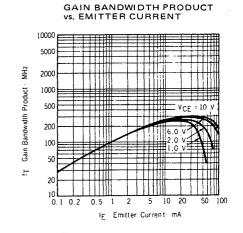




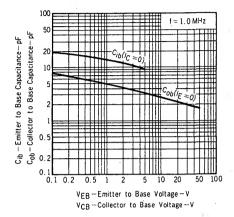




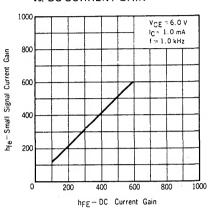




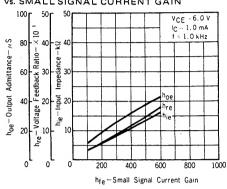
EMITTER TO BASE AND COLLECTOR TO BASE CAPACITANCE vs. REVERSE VOLTAGE



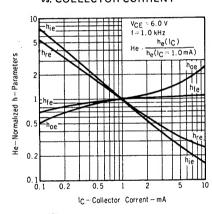
SMALL SIGNAL CURRENT GAIN vs. DC CURRENT GAIN



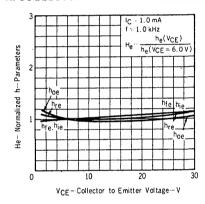
INPUT IMPEDANCE, VOLTAGE FEEDBACK RATIO AND OUTPUT ADMITTANCE vs. SMALL SIGNAL CURRENT GAIN



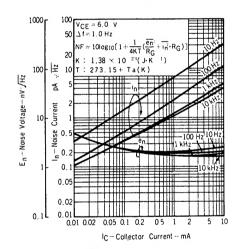
NORMALIZED h-PARAMETERS vs. COLLECTOR CURRENT



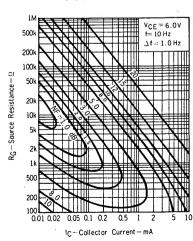
NORMALIZED h-PARAMETERS vs. COLLECTOR TO EMITTER VOLTAGE



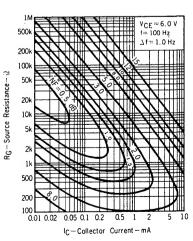
En AND In vs. COLLECTOR CURRENT



NOISE FIGURE MAP 1



NOISE FIGURE MAP 2



NOISE FIGURE MAP 3

